

HEADQUARTERS

New York Wing, Civil Air Patrol
Auxiliary United States Air Force
817 Stewart Avenue (Rear)
Garden City, New York 11530

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Civil Air Patrol Senior Member Training Program

SPECIALTY STUDY GUIDE

Communications Officer

FOREWORD

We in the communications field have a tremendous responsibility. Not only are we performing one of the most essential activities of civilization - communications; we also provide a service without which the Civil Air Patrol could not fulfill its mission. It has been said many times that the success of any organization depends upon the strength of its communications.

The communications mission of CAP is to organize and maintain a reliable nationwide point-to-point, air-to-ground, and ground mobile capability for use in search and rescue, civil defense, and disaster relief missions; to augment other existing communications services in the event of floods, fire, tornado, and similar natural disasters and to support the US Air Force Survival and Recovery program.

The Communications Officer Study Guide is designed to assist those individuals who have selected communications as their field. This study guide provides instruction for the entry level technician through the intermediate level senior and to the highest rating of master communicator.

NOTE FROM THE NYW/DCT

The National Headquarters CAP Communications Staff passed the responsibility of establishing the criteria for Communicator Specialty Track Ratings to the wings at the North East Region Conference on 23 September 2000. The wings will retain this responsibility until National Headquarters can complete the new Senior Member Training Program in Communications.

Modern technology is continually making advances in communications. Communicators now have more tools, mediums, and methods with which to accomplish their task than ever before. We must learn to incorporate this new technology into our "communicator's tool set" and take advantage of all it has to offer. At the same time, we cannot afford to forget the old tried and true equipment and methods that have served us so well in the past. There are occasions when the newer technologies fail. In severe situations a simple radio and emergency power supply can save the day.

National Headquarters would like the Master Communicator to take on more of a management role in communications and less of a technical role. National expresses the idea that today's technology requires less in depth knowledge on the part of its users.

The New York Wing Communications Staff agrees with that philosophy up to a point. We believe that a communicator does need to have some technical knowledge about the equipment being utilized. It is not enough to know where the On/Off button is. A communicator must be able to properly setup a radio station, connect a computer to the internet, install a fax machine, etc.

COMMUNICATIONS OFFICER STUDY GUIDE

Technician Rating

1. Position Description. Proficient in operation of a CAP radio station. Familiar with the duties and responsibilities of a Communications Officer as set forth in CAPR 20-1 at the Squadron level.

2. Objectives:

- a. Familiarize Civil Air Patrol communications trainees with an understanding of the basic concept of communications operation in Civil Air Patrol
- b. Provide skills to operate a Civil Air Patrol radio station under the rules and regulations as set forth by CAP.
- c. Prepare an individual for entry into the Senior Communicator level of training.

3. Functions and Responsibilities. Attainment of Basic Communicator - Technician rating requires thorough knowledge and proficiency in the following areas:

- a. Radio operator requirements:
 1. Member must complete CAP Form 119 and obtain a valid CAP Form 76, CAP Basic Radio Operator Authorization Card.
 2. A valid CAP Radio Operator Authorization Card must be kept in the personal possession of each CAP radio station operator when operating a CAP radio station.
- b. Other member requirements:
 1. Completion of Level I, Senior Member Training Program.
 2. Performance of assigned duties with minimum supervision.
 3. Participation in one practice mission in any communications capacity.
 4. Attendance at a minimum of one communications. meeting.
- c. Radio station operation:
 1. Each CAP radio station must possess a valid radio station authorization for the type of service for which it will be used before it may transmit.
 2. The power of a CAP transmitter shall be no more than the minimum required for satisfactory operation.
 3. CAP radio stations will not be required to maintain daily operations logs unless the station is acting as a net control station or participating in an emergency services operation or SHARES operation. For stations that must maintain logs, the logs will show hours of operation, frequencies used, time and identification of formal messages sent and received, stations with which communications are held, hours of station operation, and the signature of the operator on duty during this period.
 4. Station operators will participate in net operation and abide by the instructions of the net control station.
 5. Station operators must understand the three categories of CAP radio transmissions (formal, informal, and administrative).
 6. Transmitters shall be so installed and protected that they are not accessible to unauthorized persons.
- d. Radiotelephone procedures and message formats:
 1. An efficient radio net operation depends on the development and use of standard procedures which establish the foundation upon which **good** net discipline and effective communications are built.
 2. Prior to transmission, all messages should be read. This will enable words or phrases which could cause unnecessary delay in communications to be familiar.
 3. Operators will carefully monitor the frequency before commencing a transmission.
 4. During scheduled net operations and prior to roll call, all operators should be in place with equipment tuned to the proper frequency, logs available, and traffic ready.
 5. Only emergency traffic to be transmitted justifies break-in on operations in progress.
 6. The assigned call sign must be used to identify the station.
 7. Establish a system of message handling so the original copy of each message is promptly forwarded to the addressees concerned, the second copy to the administrative officer for record purposes, and the third copy is retained by the communications section for 30 days for reference and confirmation.
 8. All REDCAP communications logs and messages will be kept for a minimum of one year.

9. CAP Form 105, CAP Radio Message Form will be used for transmission of all formal traffic.
 10. Message identification will conform to CAPR 100-1 Volume III, 3-5 a, 21 August 2000.
 11. Precedence designations (Routine, Priority, Immediate) must be understood.
 - e. Distress and emergency communications:
 1. All CAP communications personnel will be familiar with the following international distress and emergency signals: MAYDAY, PAN and SECURITE.
 2. No person within the jurisdiction of the United States shall knowingly utter or transmit, or cause to be transmitted, any false or fraudulent signals of distress.
 3. Radio operators involved in any condition of emergency or distress communications will adhere to the following two basic rules of operating procedures:
 - a. always listen before transmitting.
 - b. Be prepared to offer assistance; but remain off the air unless it is clearly determined that your station services are needed.
 - f. Applications for individual radio stations will be forwarded through channels to the appropriate CAP region/wing office.
 - g. Communications safety:
 1. All stations will be properly grounded to avoid electrical shock per CAPR 100-1 Volume I, par 7-1 b, 1 August 1996.
 2. High voltage warning signs should be prominently displayed.
 - h. Computer operation:
 1. Know how to use a computer with Windows 95, Windows 98, Windows ME, Windows NT, or Windows 2000.
 2. Know how to send and receive email.
 3. Proficient with Microsoft Office, especially Word.
4. **Applicable Schools/Courses:**
 - a. CAP Form 119, Radio Operator's Test.
 5. **Read.** CAPM 20-1 and CAPR 50-15 for additional information.
 6. **Evaluation.** When the following actions are completed, the member should be awarded the technician rating and entered into senior rating training:
 - a. Attainment of radio operator requirements per paragraph 3a.
 - b. Completion of all basic requirements per paragraph 3b.
 - c. Familiarization with radiotelephone procedures, message format, distress and emergency communications, and communications safety.
 - d. Knowledgeable of radio station types, call signs, and authorization procedures.
 - e. Commander's certification that these requirements have been met.*

*Document this training on CAP Form **45**, Senior Member Master Record, and update the unit Senior Training Report

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COMMUNICATIONS OFFICER STUDY GUIDE

Senior Rating

1. **Position Description.** Must be able to perform the duties and responsibilities of Communications Officer as set forth in CAPR 20-1 at the Group level.
2. **Objectives:**
 - a. Enable a CAP communicator to obtain full knowledge of the principles and functions of CAP communications, communications management principles, and to prepare her/him with the expertise necessary to cope with matters pertaining to communications at the Group level; a senior communicator must be fully qualified to act as communications advisor at the Group Staff level.
 - b. Understand the objectives and goals of the CAP communications program. A senior communicator should be qualified to fulfill the role of mission Communications Unit Director. Failure to attain this qualification does not preclude an individual from receiving a senior rating.
3. **Functions and Responsibilities:**
 - a. A senior communicator must have successfully completed the Technician Communicator level.
 - b. Award of the Senior Communicator rating requires complete knowledge and proficiency in the following areas:
 1. Principles and functions of CAP communications.
 2. Member must hold a valid CAP Form 76, *CAP Advanced Radio Operator Authorization Card*.
 3. Knowledge of the duties and responsibilities of a Group Communications Officer as set forth in CAPR 20-1.
 4. Frequency use and net schedules.
 5. CAP radio station licenses, authorizations, and call signs.
 6. Aeronautical Search and Rescue Radio Station operation.
 7. Practice Emergency Locator Transmitter (ELT) operation.
 8. Emergency power operation.
 9. Fundamental principles of radio station setup including:
 - a. Basic antenna installation and adjustment.
 - b. Radio station safety per CAPR 100-1 Volume I, par 7-1, 1 August 1996.
 10. Fundamental principles of computer setup including:
 - a. Connecting common peripherals such as monitors and printers to a computer.
 - b. Software configuration process for common peripherals.
 - c. The proper process for adding and removing of programs in a computer.
 - d. The setup process for connecting a computer to the internet and establishing email.
4. **Additional Study Suggestions.** All CAP regulations and manuals.
5. **Evaluation.** When the following actions are completed, the member should be awarded the Senior Communicator rating and entered into master rating training:
 - a. Qualification at the base skill level (technician rating).
 - b. Demonstrated proficiency in managing and directing communications activities at the Group level.

- c. Demonstrated knowledge of all applicable directives, management principles, and functions of CAP communications.
- d. Completion of all other requirements per paragraphs 3b and 3c.
- e. Commander's certification that the above requirements have been met.*

*Document this training on CAP Form 45 and NYWF 100/4. Forward NYWF 100/4 to the Wing Director of Communications Training for rating upgrade.

COMMUNICATIONS OFFICER STUDY GUIDE

Master Rating

1. **Position Description.** Must be able to perform the duties and responsibilities of a Communications Officer as set forth in CAPR 20-1 at the Wing or Region Level. Provides commanders, staff officers, and communications personnel with technical and non-technical assistance and guidance concerning CAP and other agency communications activities. Furnishes technical advice and assistance to CAP units. Maintains close liaison and coordination with unit communications officers and communications personnel providing assistance relating to communications network requirements, operational and emergency planning, frequency use, maintenance programs, safety programs, radio operator proficiency, equipment use, equipment modification, communications training, and CAP licensing and station authorization and records keeping procedures. Maintains liaison with counterparts of agencies such as Emergency Management and Red Cross.
2. **Objectives:**
 - a. Promote and develop a thorough understanding of all operational aspects of the CAP communications program as it pertains to all levels of the organization.
 - b. Recognize and cope with communications problems and matters unique to CAP networks and support requirements for the CAP mission.
 - c. Develop and maintain a high degree of knowledge pertaining to radio equipment, basic electronic theory, network operations, training and maintenance.
 - d. Serve as a communications advisor to various staff personnel providing expert technical assistance and guidance concerning communications matters.
 - e. Be fully qualified to fulfill the duties of a mission Communications Unit Director.
3. **Functions and Responsibilities:**
 - a. Member must have successfully completed the first and second training levels required for award of Technician and Senior Communicator ratings.
 - b. Award of Master Communicator rating requires knowledge and proficiency of the following areas and technical subject matter. *NOTE: This knowledge and proficiency can be obtained from the study of reference sources listed or other educational institutions or courses as the member may select.*
 1. Goals of the CAP Communications Program.
 2. HQ CAP-USAF Command Radio Nets.
 3. Licensing and authorization procedures for all types of radio stations used in CAP.
 4. Basic electrical laws and circuits.
 5. Basic receiving systems.
 6. Basic transmitting systems.
 7. Testing and monitoring transmissions.
 8. Antennas (fixed, portable, and mobile).
 9. Basic propagation theory.
 10. Mobile and portable emergency equipment.
 11. Use of test equipment.
 12. Adding internal hardware such as modems, hard drives, and memory to a computer.
 13. Editing the BIOS setup on a computer.
 14. Basic LAN and WAN networking.
 15. Expert with Microsoft Office.
 - c. Other requirements include the following:
 1. Completion of Level II, Senior Member Training Program.
 2. Fully qualified as a Mission Communications Unit Director.
 3. Participation in at least five practice/actual missions in a communications capacity, two as Communications Unit Director with one of them as Communications Unit Director in a state-wide practice/actual mission.
 4. Attendance at three communications meetings, one of which must be a region level meeting and plan and conduct one communications meeting at a local level.
 5. Participate as an instructor in at least three Basic or Advanced Radio Operator Courses.

4. **Additional Study Suggestions.** Members endeavoring to increase their proficiency by other means than those listed above may pursue such training through various accredited correspondence courses, special college courses, vocational schools, and self-study of publications and reference material as prepared by the American Radio Relay League.

6. **Evaluation.** When the following actions are completed, the member should be awarded the Master Communicator rating:

- a. Qualification at the senior skill rating.
- b. Proficiency in all general knowledge areas and technical subject matter as prescribed in paragraphs 3b and 3c.
- c. Commander's certification that the above requirements have been met.*

*Document this training on CAP Form 45/CAPF 66 and NYWF 100/4. Forward NYWF 100/4 to the Wing Director of Communications Training for rating upgrade.